

Fig. 3

300

The systems 100 and 200 are ready to begin processing and routing data packets 121.

310

At least one source device 110 transmits one or more data packets 121. The data packets 121 are input to the routing or switching device 130 at one or more input interfaces 131.

315

Upon receiving the packet 121, the M-trie Plus engine 133 accesses the root node of the M-trie Plus data structure and initializes its forwarding state

320

The M-trie Plus engine 133 determines whether the processing is complete, as indicated by reaching a terminal node. If processing is complete, the method 300 proceeds at step 340. If processing is not complete, the method 300 proceeds at step 330.

330

The M-trie Plus engine 133 extracts the data field from the packet 121 specified by the current node opcode. The opcodes in the oppointer (that is, the 10 bit opcode 230) can refer to any portion of the packet flow label, or more generally, to any field in the packet.

335

The M-trie Plus engine 133 accesses the node of the M-trie Plus data structure 150 that is determined by the address in the previous step. The method 300 proceeds at step 320.

340

The data packet 121 is passed to one or more output interfaces 135 or dropped. The decision to pass or drop the packet 121 is responsive to information contained in the terminal leaf node 215.